An Essay on
Hereditary Predisposition
and
the best means of preventing
Hereditary Diseases.

C B Fleet — Virg.a

admitted March 4th 1820 —

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Ever since the fall of our first parents, the sad inheritance entailed on all their numerous progeny has been misery to a greater or less degree; not the least fruitful source of which is that of Disease in its various forms. Dreadful indeed would have been the condition of mankind, had not divine providence so far pitied them, as to have afforded the necessary remedies for the relief of their numerous bodily sufferings.

Perhaps there is not a more fruitful source of anxiety, uneasiness and distress presented by the diseases which are incident to the human body, than those which descend from one generation to another and which are generally termed hereditary.

The subject to which I wish to call your attention in this essay is that of the hereditary predisposition to those diseases which occur most commonly in the United States.

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rities and appearances of the persons who are most liable to each of the several diseases included under the above term. After which I shall endeavour to designate the best means of preventing each.

Previous to entering upon the diseases, a few general observations will be made on the subject of predisposition.

By the term predisposition I understand a particular aptitude in some persons of becoming affected by slighter external causes, than would be required to produce a similar affection in others not posseping any such predisposition. And this predisposition is either acquired or hereditary. ~~when hereditary~~, when hereditary it most commonly depends on some peculiarity of structure or organization of the part so predisposed which is inherited from ancestors.

In this, and no other way, can we explain why one part of the body should be affected by the action of external causes, in preference to another. This is

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exemplified in all diseases, and is so notorious as to have become almost an aphorism with medical men "That disease always attacks the weakest part;" which of course is the part in which the predisposition is the strongest. Upon the same principle we can explain why a number of persons whose occupation and mode of living are precisely similar, and who are exposed to the same exciting causes should become affected with entirely different diseases, requiring different and sometimes opposite remedies for their cure.

Nor can it be doubted that predisposition although originally acquired, may be transmitted from parents to their offspring, otherwise we should be greatly at a loss in explaining, why children are so frequently affected with the same diseases with which their ancestors had been afflicted. Hence it is observed by Doctor Rush "that when parents have been affected with gout, that half the intemperance will bring it on in their children".

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tion has not been manifested in the immediate descendants of the affected parents, that it shall not be in the subsequent generations. Hence we are directed by physicians in searching for the source of diseases, not to confine our inquiries to the diseases of the parents alone, but to go back several generations; for there are instances of hereditary diseases skipping one or two generations and then appearing in subsequent ones.—

Doctor Adams, in his treatise on hereditary diseases, says "the danger and security of the rising offspring may often be estimated by a similarity of feature or character to those of their brothers and sisters, who have previously fallen into the disease".—

Our author illustrates this opinion by the case of a family of children who at a certain age became affected with Hydrocephalus Internus, so that the mother after losing two or three formed a correct prognostic which of her younger children would be seized with

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This part of the subject would now be dismissed but previously to doing this I would beg to be indulged with a few observations on a distinction made by Doctor Adams between Disposition and Predisposition, in attempting to show not a, infatuation to the former term

With due respect to the opinion of an author or Author by leave to enquire whether that susceptibility which he calls Disposition may not in most cases be the consequence of a previous strong predisposition, which has increased until the part or predisposed takes on disease without any obvious exciting cause thereby becoming not only the predisposing, but the exciting cause also and neither the epithets strong and weak seem not with equal propriety be prefixed to the term Predisposition to denote the different degrees of susceptibility, to which Doctor Adams applies the terms disposition and predisposition?

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I have reason to the degree is not finished, or fell into I have not sufficient why these diseases not have been the immediate consequence of a more low diet an excess, even is not necessary for the production of disease when the degeneration exists. I hope that I shall be pardoned for the digression since I viewed it as unnecessary, and a useful addition to the long catalogue of terms and definitions which perplex the student of medicine, the entertainment of which would very much facilitate the acquisition of a knowledge of his profession.

The disease with which I shall commence is Phthisis Pulmonalis or Pulmonary Consumption.

It is a very ancient aphorism, which is as correct as it is old "That an ounce of prevention is worth as much as a pound of cure" May not prevention be estimated still more

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valuable when applied to the disease about to be considered, the ravages of which when once well established bid defiance to all the boasted remedies with which it has been heretofore combatted.

The victims of this lamentable complaint are generally characterized by spare bodies long necks prominent shoulders high cheek bones rosy complexion, light hair and eyes turned upper lip great sensibility, and all the other symptoms of a sanguine temperament. There is likewise a peculiar instability and weakness of the vascular system more especially of the lungs, inasmuch as the individual is subject to a frequent catarrh and spitting of blood.

Females are more subject to it than males on account of their sedentary habits and more lax bodily exertion than males.

It occurs most commonly between the age of 18 and 35 years.

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It is more frequently inherited from the latter than mother.

From the frequency of this most fatal to the diseases which have been not unknown prevailed in connection with them due to an hereditary disposition it appeared to me that steps might be taken to prevent it long before any symptoms of the complaint have made their appearance.

Much may be accomplished toward preventing all hereditary diseases by proper management between the sexes and parents.

By rarely allowing children to marry hereditary model will be attained not only toward preventing the diseases under consideration, but the system will become fortified against the attack of all other diseases whether hereditary or not. I do not mean to say that they would be entirely exempt from diseases by a strict observance of this rule, but they would enjoy at least as great immunity from disease as the aborigines of this country nothing the

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proper allowances for the difference between civilized and savage customs [illegible] and that of the [illegible] Indians, which we find here [illegible] the [illegible], and they are [illegible] among the great settlers of this country.

It would be utterly incompatible with the [illegible] present undertaking, to enter minutely into the different ways by which the vigour and strength of constitution, which belong to the native of this country, may be [illegible] to the climate, in all therefore only make a few general observations.

In order that children may suffer as little inconvenience from the vicissitudes of temperature as usually from cold, they should be accustomed to bathe all over in cold water frequently during the day, in summer, and especially every morning during the winter; they should be accustomed to do this from their earliest infancy. Children should be accustomed to exercise much in the open air.

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warm room during the winter. The best bed appears to me to be a mattress in the winter and a blanket and sheet spread on the floor in the summer.

The loss of vitality should be avoided, blood and nutritions.

I have often observed that the child of Consumptive parents is much more healthy than would result to a deterioration or lessening power of the stamina which, perhaps, proceeds from the habit which young persons are very apt to acquire of stopping instead of sitting in an erect posture. [illegible]

[illegible] would be [illegible] a [illegible] but, for [illegible] the [illegible] attention with a view of improvement on the chest which would induce them to endeavour to remove it by [illegible] exercise but not [illegible] improvement.

For the [illegible] of commencement in mental [illegible] I [illegible] a [illegible] a [illegible] [illegible] I [illegible] a mode of [illegible]

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which has succeeded most happily with myself and several of my friends to whom I have recommended it.

It consists simply of a square piece of strong linen about three or four inches in dimensions with a shoulder strap fastened to each of the superior angles or corners and a strap to each of the opposite angles sufficiently long to extend some around the [illegible] obliquely across the abdomen and to buckle just above the pubis. When the arms are passed through the shoulder straps, it should be buckled moderately tight as above directed and it may be prevented from slipping up by a couple of tapes fastened to the drawers and tied over the straps on each side of the buckle

With this contrivance I have not [illegible] [illegible] without experiencing any [illegible] unpleasant symptoms after [illegible] when it is first worn it is apt to produce a [illegible]

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excoriation when it opens the shoulders especially if the bone bands be drawn too tight; this is the only inconvenience which can possibly arise from its use and this may be easily prevented by wearing it loose at first, and gradually tightening it as the wearer becomes accustomed to its use. So far from its being uncomfortable to the wearer, it is first become accustomed to it, that he will feel uneasy without it.

I think it would be very serviceable to children of a consumptive form to wear such a contrivance constantly.

As regards the dress of children and youths, it should be comfortable and perfectly loose, tight lacing, particularly over the chest should be positively forbidden

Neither should the general conformation and peculiarities of the body be overlooked in selecting a profession for a young person, any more

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than the moral tendency or inclination of his mind; always selecting the most active employment for such as are of a consumptive form.

Females should exercise much on horseback instead of close carriages and instead of the use of the piano, [illegible] will be found to be an excellent substitute.

To what has been already said respecting the preventives against Phthisis Pulmonalis, I might only add that since the [illegible] [illegible] [illegible] is incompatible the patient should be cautious in guarding against the vicissitudes of the weather and all the exciting causes to the disease. Flannel should be worn next the skin, and the slightest cold should always be treated by the appropriate remedies as soon as discovered.

Particular attention should likewise be paid to the diseases which may occur about the period of puberty, especially in females, for the seeds of this as well as other hereditary diseases are ex-

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tremely apt to germinate in a soil already in some degree prepared by nature, and completed by any disease which may happen to occur at this period

[illegible] Tuberculis [illegible] the disease [illegible] considered in this light

Scrofula

Before the probable causes [illegible] among the predisposing diseases I shall make a few observations on the symptoms which have been noticed general of

It has been said by some that Scrofula should not be called an hereditary disease, because the children of scrofulous parents are not always affected with it, and its beginning appears arise in the decrease of strength which [illegible] affected with it

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it, but this certainly does not prove that a predisposition to scrofula is never transmitted from parents to their children. The same objections might be urged against the doctrine of hereditary predisposition to Phthisis Pulmonalis Mania, and all the other diseases which are generally considered to be hereditary; indeed they might be even extended to congenital diseases, because only some of the children of a family are destroyed by them and others escape.

I must contend therefore that the descendants of scrofulous ancestors are more liable to be affected with scrofula than those of healthy ancestors. I do not pretend to say that the disease itself is hereditary independently of the predisposition, but that it is merely the latter which is so.

Often, if the disease may not appear in the immediate descendants of scrofulous parents, yet we are told by Professor [illegible] and Rapsell that it has been known to pass by two or three generations successively and attack the succeeding ones.

Russell says that it is eminently hereditary and that the tainted constitution of a single parent is sufficient to communicate the disease to their common progeny." This circumstance, he remarks, is not peculiar to scrofula, the susceptibility to Phthisis & insania are as exhibiting the same fact.

The countenance [illegible] [illegible] [illegible] or [illegible] from [illegible] [illegible] this disease the [illegible] [illegible] [illegible] complexion light and [illegible] [illegible] [illegible] [illegible] the face [illegible] [illegible] [illegible] [illegible] generally [illegible] in proportion of [illegible] [illegible] white and more full than usual. [illegible] [illegible] [illegible] are often affected with a long and troublesome inflammation. there is frequently swelling of the upper lip with some thickening of the nostrils and point of the nose. the upper lip has also a furrow in the middle. they are generally handsome and of acute understandings

The distinctness and prominence of the above symptoms usually depend upon the extent of the

predisposition. This we generally solve but seldom which we will to stand much fatigue. The glands of scrofulous persons particularly those of the neck, are apt to swell frequently, which is often unaccompanied with pain or redness."

With respect to the best means of preventing scrofula, I have nothing to add to [illegible]

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In addition to the general management already alluded to, I would [illegible] attention should be bestowed on the inflammatory swellings of the glands which may seem at any time to prevent inflamma-

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The next disease to notice, and which shall next be considered is Scirrhus or Cancer —

This is a disease which is so little understood that I can say very little about its pathology. It is thought to depend frequently upon hereditary predisposition. Mr. Home thinks that a predisposition to Cancer depending on [illegible], peculiarity of structure may be transmitted from parents to their descendants, and that in this way the disease is hereditary.

Mr. Hunter was also of the same opinion; he observes that of fifty women who may receive similar accidents on a particular part, not more than one or two will be affected with subsequent cancers.

I have not been able to discover in any of the authorities to which I have had access that the cancerous predisposition is marked by any distinguishing peculiarities.

It may occur at any period, but most commonly

ly does not make its appearance until advanced life

Women are more subject to it than men, and it is most apt to occur in them about the period of the cessation of the menses.

[illegible]

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Stomach [illegible] [illegible] most frequently produced by a blow or some external injury done to the part affected but that it is sometimes the consequence of previous inflammation from other causes.

From what has been said above it would appear that the [illegible] of cancerous [illegible] should vary according to the causes and [illegible]

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lar state of the constitution connected with it. During its continuance it is in general advisable to have recourse to the use of the cold bath, or cold lotions, such remedies as are calculated, according to the particular state of the constitution to restore the healthy action of the skin should be immediately resorted to.

Persons of an early parents should carefully avoid exposing their children, both at and after birth, lest they become affected from any cause whatever, other means should be immediately adopted to prevent such affections from terminating in scurvy or cancer.

The next disease to which I shall call your attention is

GOUT.

By Cullen and others in general this has been usually defined to be an hereditary disease

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Although the examples of acquired Gout may be most numerous, yet the instances of an hereditary predisposition to it are sufficiently numerous to justify its being classed among the hereditary diseases.

With a view of obtaining accurate information on this subject Doctor Heberden instituted the following enquiries.

"Of 77 patients in whom the disease was hereditary from the father was:	28
" " mother	5
" " " " father and mother	3
Of those whose grandfather only had Gout.	3
" grandmother only had Gout	1
Aunt only in the family had Gout	1
	34

Not known either on the fathers or mothers side 43"

From this statement it appears that the cases of acquired Gout in which no family inheritance could be traced were to the rest as 43 to 34

It is now into evidence that gout is a constitutional disease proceeding, or at least hereditary, in a people, first the susceptibility to the disease is hereditary, & they inherit it, and could believe that men frequently attain a vigorous age before the age of puberty, women under the age of twenty five and most frequently between the age of twenty five and thirty five.

Gout seems to depend upon the propagation of a similar impression from father to son, either a predisposition to the disease has been received from ancestors, if force or exciting causes will induce it than on those habits which have not been the case. The predisposition sometimes, is passed by children and appears in grandchildren. There are instances known where it has passed by the males and appeared only in the females of a family.

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with large capacious and circular chest they have generally full veins and loose solids, and Cullen says that they have coarse skin, from the rete mucosum being thicker in them

Males are more frequently afflicted with it than females, in the ratio of 85 to 15

The best means of preventing Gout in persons who are constitutionally predisposed to it, are very obvious they consist in a simple mode of living, the use of exercise, and a total abstinence from all kind of spirituous or fermented liquors, together with strong tea and coffee

This practice is corroborative by its comparatively rare occurrence in females from the remote causes being rarely and more slightly applied —

I shall now make a very few observations on

Apoplexy

This disease has been commonly supposed to [illegible] in the [illegible] and [illegible]

among the hereditary diseases, and among the causes of apoplexy, heredity and constitutional predisposition are the most important.

The subjects of this disease are usually distinguished by the make of body. They have the head relatively large to neck short, and the body corpulent in form, with a tendency to obesity.

It most commonly attacks in advanced life, from 60 years and upwards, but when hereditary predisposition needs only the induced blood, it may occur, at the earlier period, it will hardly be to damage without an attack of the disease.

As to the prevention of apoplexy, we may give rules which can be laid down, for they must vary according to the variety of the existing causes.

But it may be safely recommended in all cases to observe abstinence, and symptoms of a predisposition to apoplexy, to avoid intemperance

[illegible]

[illegible]

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of long hair, and a wild, humorous, & the benefit of the [illegible] are [illegible] and natural [illegible].

The record with which I shall conclude this essay is

Mania —

As to the probability of Insanity, [illegible] among the Aborigines, I confess it will be necessary to resort to the authority, first the Lieutenant, author of a Sailor Book of Sumatra and Borneo.

The unfortunate objects of Mania, or [illegible] Hottam are generally characterized by a wretched complexion and with colour of hair, [illegible] to be [illegible] in [illegible] of 26 [illegible] Bethlem Hospital, London. Dr Tanner, formerly of the Pennsylvania Hospital, confirms the same, mentioned by Dr Hottam, and adds that maniacs have generally light coloured eyes.

It appears from the [illegible] that [illegible] when [illegible] to [illegible] [illegible] [illegible]

care should be used lest the mind should at any time become fatigued.

[illegible] should [illegible] never be put too early to the study of those sciences which would require too great exertion and fatigue of their faculties to comprehend on the contrary it should be an object to amuse them at the same time that they are gradually instructed.

Neither should the predilection of musical amusement be in any case overlooked in general active employments should be selected for them.

With these observations I shall close this dissertation it would be easy to extend it to many other diseases which in a great measure depend upon hereditary predisposition for their existence in the same manner as those already treated of but this would greatly transcend the limit of the [illegible] undertaking. I have therefore purposely confined my observations to the most important of the heredi-

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tary diseases which are of most frequent occurrence in the United States.

The writer begs that his incompetency of rendering this (his first essay) more acceptable may be received as his apology for its numerous imperfections.

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Medical Science
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United States.

Samuel Clark Oliver
Mrs Larkins's 303.
Race Street
Neither to be examined before
the Professors

Sam.l Clark Oliver

admitted March 23d. 1820

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